

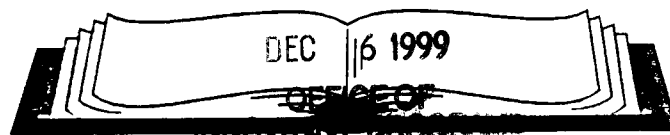
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Code #
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NEW JERSEY

1999-2000
Guidelines and
Application

RECEIVED



BEST ORIGINAL PRACTICES

**Deadline for Application to County Office:
NOVEMBER 22, 1999**

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UNION COUNTY
SUPERINTENDENT OF SCHOOLS

Category	<u>SCIENCE</u>	(Application is limited to one category. See page 3 for details.)
Practice Name	<u>FROM SEEDS TO SALAD: CREATING A SCHOOL GARDEN</u>	
Number of Schools with Practice	<u>1</u>	(If more than one school or district, read and complete information on page 2.)

County	<u>UNION</u>		
District (Proper Name)	<u>BERKELEY HEIGHTS PUBLIC SCHOOLS</u>		
District Address	<u>345 PLAINFIELD AVENUE</u>		
	<u>BERKELEY HEIGHTS, N.J.</u>	<u>07922</u>	zip code
District Telephone	<u>908-464-1718</u>	Fax <u>908-464-7673</u>	Email
Chief School Administrator	<u>DR. RICHARD G. BOZZA</u>		
Nominated School #1 (Proper Name)	<u>THOMAS P. HUGHES SCHOOL</u>		
School Address	<u>446 SNYDER AVENUE</u>		
	<u>BERKELEY HEIGHTS, N.J.</u>	<u>07922</u>	zip code
School Telephone	<u>908-464-1717</u>	Fax <u>908-464-1783</u>	Email
School Principal	<u>MR. ALAN LOWY</u>		
Program Developer(s)	<u>MR. ALAN LOWY, MRS. MARIE CIRASELLA, MRS. KRIS PORZIO</u>		
Chief School Administrator's or Charter School Lead Person's Signature	<u>Richard G. Bozza</u>		

FOR USE BY COUNTY SUPERINTENDENT OF SCHOOLS ONLY	
Approved: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	County Superintendent's Signature <u>James H. [Signature]</u>

NEW JERSEY STATE DEPARTMENT OF EDUCATION

NEW JERSEY
BEST PRACTICES
1999-2000 APPLICATION

610

Application Requirements:

- ◆ **RESPONSES** to the information and the statements below **must be ANONYMOUS**. No reference should be made to the names of the district or the school(s). Use the words "the school" or "the schools" in referring to the applicant in responding to the statements.
- ◆ **USE ONLY THE SPACE PROVIDED ON THE APPLICATION FORM** on pages 1, 2 (if applicable) and 4 and **THE NUMBER OF LINES SPECIFIED FOR RESPONSES** to the statements. Do not include any additional materials, as they will not be reviewed in the selection process.
- ◆ Application must be **keyboarded on 8 1/2" x 11" white paper, portrait format. Ten-point or larger computer font or twelve-pitch or larger typewriter font must be used.** (This sentence is in ten-point.)
- ◆ **KEYBOARDED RESPONSES** to the statements below must be **no more than a total of three pages**. Keyboard the statement followed by the response. Format your response to the number of lines specified.
- ◆ The information on page 4 and the keyboarded responses to statements must be printed or copied on one side of the page. The information on pages 1 and 2 (if applicable) must be printed or copied on one side of the page. Staple pages 1 and 2 (if applicable) and 4 and the keyboarded responses together.
- ◆ The original application must be signed by the district chief school administrator or charter school lead person, indicating his/her approval.
- ◆ The original and seven copies of the application must be submitted to the county superintendent of schools by November 22, 1999, with the Itemized List of District Applications form. Keep the seven copies of each application together with the original containing the signature of the district chief school administrator or charter school lead person on the top of each set.
- ◆ **FAILURE TO COMPLY WITH THE PROCEDURES FOR SUBMISSION OF THE APPLICATION MAY RESULT IN THE ELIMINATION OF THE APPLICATION.**

The following data is required to assist the panelists in the evaluation of the application:		
Type of School <input checked="" type="checkbox"/> Elementary School <input type="checkbox"/> Middle School <input type="checkbox"/> Junior High School <input type="checkbox"/> High School <input type="checkbox"/> Other: _____	Grade Levels 2-5 _____ _____ _____	Practice Name FROM SEEDS TO SALAD: CREATING A SCHOOL GARDEN _____ Number of Schools with Practice _____ Number of Districts with Practice _____

Check the ONE CATEGORY into which the practice best fits.		
<input type="checkbox"/> Arts (Visual and Performing Arts) <input type="checkbox"/> Assessment/Evaluation <input type="checkbox"/> Bilingual Education and Diversity <input type="checkbox"/> Citizenship/Character Education <input type="checkbox"/> Early Childhood Education Programs <input type="checkbox"/> Educational Support/Guidance and Counseling Programs (services contributing to high student achievement)	<input type="checkbox"/> Educational Technology <input type="checkbox"/> Health and Physical Education <input type="checkbox"/> Language Arts Literacy <input type="checkbox"/> Mathematics <input type="checkbox"/> Professional Development <input type="checkbox"/> Public Engagement (family involvement and partnerships with business, community and/or higher education)	<input type="checkbox"/> Safe Learning Environment <input type="checkbox"/> School-to-Careers/Workplace Readiness <input checked="" type="checkbox"/> Science <input type="checkbox"/> Social Studies <input type="checkbox"/> Special Education <input type="checkbox"/> World Languages

1. Describe the practice proposed for recognition, and list its objectives. Detail how the practice is innovative, how it promotes high student achievement and how it can be replicated. (Maximum of 50 lines for response)
2. Describe the educational needs of students that the practice addresses and how they were identified. List the *Core Curriculum including the Cross-Content Workplace Readiness Standards** addressed by the practice and describe how the practice addresses the standard(s). (Maximum of 50 lines for response)
3. Document the assessment measures used to determine the extent to which the objectives of the practice have been met. (Maximum of 60 lines for response)

*The 1996 edition of the *Core Curriculum Content Standards* published by the New Jersey State Department of Education was disseminated to all districts and charter schools and is available on line through the department's website at <http://www.state.nj.us/education>.

1. *Describe the practice proposed for recognition, and list its objectives. Detail how the practice is innovative, how it promotes high student achievement, and how it can be replicated.*

A popular curriculum extension for many elementary school programs is the classroom garden. Fifth-graders at the school took the traditional gardening experience a step further and brought it outside with one of the most successful and innovative cross-curricular projects of the 1998-99 school year, "From Seeds to Salad: Creating a School Garden". A fifth grade teacher initiated the project in response to a grant offered by the district's education foundation. Cross-curricular connections were created by two other fifth grade teachers at the school.

As initial preparation for the project, students conducted on-line Internet research on various crops. In November, each student was allotted one 18-square inch plot of soil on a piece of land bordering one wing of the school. The rototilling of the garden was supervised by a teacher and aided by parent volunteers. After tilling, the students worked to plot the garden then added peat moss and mulch to prepare the ground for a spring planting.

In March, the soil was again rototilled. Students then planted their crops, and the observation process was underway. Project objectives were met in a timely fashion as the garden matured and hands-on activities began in earnest. In June, the delicious fruits of student labor were harvested, and the school's entire student body enjoyed a glorious homegrown salad. An unexpected additional benefit was realized when parent and student volunteers offered to continue caring for the crops over the summer months. As a result of their combined efforts, the school regularly delivered 10-gallon bags of fresh produce to local homeless shelters. This community service, the donation of the only fresh produce received by the shelters, brought the learning process full circle by making student contributions and academic achievement one that benefited the community-at-large.

The hands-on experiences culled from outdoor gardening greatly enhanced all stated objectives for the project:

- Students will plant a vegetable garden, and record observations in individual plant journals.
- Students will learn about composting, garden pests, and the growing season through a variety of hands-on lab experiences.
- Students will utilize math and measurement skills to chart plant growth and development.
- Students will employ the scientific method at various junctures during the garden's development, and form hypotheses for future garden projects based on their experiences.
- Students will discover the impact of climate and environment on a garden, and relate these to the microclimates discovered in the school garden.
- Students will explore the concept of interdependence among living things.
- Students will use on-line Internet technology to research crops.
- Students will complete a cross-curricular connection involving synesthesia, the use of sensory-related imagery in writing, and express acquired knowledge by writing original compositions.

In addition to generating motivation through a myriad of learner-active projects, the school's garden project promoted high student achievement by virtue of its challenging student-centered instructional methodology. Further, the project was innovative in design, encouraging student curiosity and achievement in a manner that texts and classroom resources are incapable of. The project is also easily replicated and can be efficiently adjusted to reflect the physical plant of any school. Dimensions for the garden and plot accommodations for the quantity of students involved can be adjusted to reflect available ground for planting.

2. *Describe the educational needs of students that the practice addresses and how they were identified. List the Core Curriculum including the Cross-Content Workplace Readiness Standards addressed by the practice and describe how the practice addresses the standard(s).*

In creating this unit of study, the educational needs of students were carefully addressed to ensure compliance with the Core Curriculum Content Standards, including the Cross-Content Workplace Readiness Standards. The following is a list of standards and the objectives and practices that are in concert with each.

1. *Science Standard 5.2: All students will develop problem solving, decision-making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.*
Cross-Content Workplace Readiness Standard 1: All students will develop career planning and workplace readiness skills.
Cross-Content Workplace Readiness Standard 3: All students will use critical thinking, decision-making, and problem-solving skills.
Cross-Content Workplace Readiness Standard 4: All students will demonstrate self-management skills.
Cross-Content Workplace Readiness Standard 5: All students will apply safety principles.
 - Students will demonstrate self-management skills and employ safety principles by planting plots in a vegetable garden, and recording observations in individual plant journals.
 - Students will employ the scientific method at various junctures during the garden's development, and form hypotheses for future garden projects based on their experiences.
2. *Science Standard 5.4: All students will develop an understanding of technology as an application of scientific principles.*
Cross-Content Workplace Readiness Standard 2: All students will use technology, information, and other tools.
 - Students will use on-line Internet technology to research crops.
3. *Science Standard 5.5: All students will integrate mathematics as a tool for problem-solving in science, and as a means of expressing and/or modeling scientific theories.*
Cross-Content Workplace Readiness Standard 3: All students will use critical thinking, decision-making, and problem-solving skills.
 - Students will utilize math and measurement skills to chart plant growth and development.
4. *Science Standard 5.6: All students will gain an understanding of the structure, characteristics, and basic needs of organisms.*
 - Students will learn about composting, garden pests, and the growing season through a variety of hands-on lab experiences.
5. *Science Standard 5.12: All students will develop an understanding of the environment as a system of interdependent components affected by human activity and natural phenomena.*
 - Students will discover the impact of climate and environment on a garden, and relate these to the microclimates discovered in the school garden.
 - Students will explore the concept of interdependence among living things.
6. *Language Arts Literacy Standard 3.3: All students will write in clear, concise, organized language that varies in content and form for different audiences and purposes.*

Cross-Content Workplace Readiness Standard 3: All students will use critical thinking, decision-making, and problem-solving skills.

- Students will complete a cross-curricular connection involving synesthesia, the use of sensory-related imagery in writing, and express acquired knowledge by writing original compositions.

3. *Document the assessment measures used to determine the extent to which the objectives of the practice have been met.*

Student achievement was evaluated through a variety of assessment measures designed to determine the extent to which the objectives of the project were met. Assessment was ongoing throughout the duration of the project, and conducted in concert with appropriate chapter and unit assessments in the school's science text. Assessment measures were carefully designed, with consideration given to the different learning styles of all students.

The on-line Internet research conducted by the students was evaluated to determine if appropriate information was gathered and analyzed correctly as the selected plants were grown and harvested. Individual Plant Journals kept by the students were periodically evaluated and the teacher provided feedback.

The knowledge acquired by students regarding composting, garden pests, and the growing season was assessed through student's gardening experiences, and related successes and failures were evaluated. Students were often asked to describe garden experiences, then determine what changes could have been made to insure greater success in the future. Students kept detailed observation records and their efforts were continually monitored to determine understanding of new concepts.

Hands-on lab experiences were evaluated in accord with steps listed in the scientific method. Student hypotheses were discussed and assessed for reasonableness in light of prior knowledge. Inquiry was encouraged via class discussions. Students were also given chapter and unit tests and quizzes at appropriate junctures. The impact of climate and the development of microclimates was charted and discussed in both whole class and small group settings.

The concept of interdependence among living things was explored in all gardening experiences and appropriate connections were made between the garden and the gardeners. Assessment measures included an examination as to the extent of student understanding of the concept of interdependence and how the concept extended to their individual contributions as caretakers of the garden. Understanding and concept mastery was evidenced in all written work and observed during lab activities.

Math and measurement skills were employed throughout the duration of the project. Student work in this area was periodically assessed to determine accuracy of calculations in projections, including plant growth and expected harvest dates.

The language arts cross-curricular connection asked students to employ synesthesia, the use of sensory-related imagery in writing, in written work. This element was evaluated to determine if the original compositions expressed appropriate acquired knowledge. Teacher feedback was provided, and students were asked to revise edited work prior to publishing. Students' written work was presented alongside torn-paper vegetable creations, further extending the activity into the realm of artistic expression.

During the harvest season, students picked crops and helped prepare the harvest for human consumption. Aided by teachers and parent volunteers, students prepared a huge salad, which was enjoyed by the school's entire student body. As stated, the garden continued to flourish over the summer months and the fruits of additional harvests were donated to local homeless shelters.